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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/612,906

07/07/2003

Masanori Araki

4320

24956

7590

10/31/2006

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.  
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EXAMINER

KIM, HAROLD J

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/612,906

Applicant(s)

ARAKI ET AL.

Examiner

Harold Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/458705.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Office Action is in response to the filing of the Amendment, on 8/3/2006, has been considered but the arguments are moot in view of the new ground(s) of rejection. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, this action is made **FINAL**.
2. Claims 25-39 are presented for examination

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 25-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The independent claim 25 is claiming to delay a second request of the multiple requests. However, the dependent claim 31 is claiming the multiple requests to be handled in parallel. Thus, the claims are contradicting themselves.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**4. Claims 25-39 are rejected under 35 U.S.C. 102(e) as being anticipated by DeKoning et al., US Patent no. 5,933,824.**

5. In re claim 25, DeKoning et al. shows a system [fig 6] comprising:

a plurality of disk drives [fig 6, 108, 110]; and

control unit [fig 6, 602] for controlling read/write of data requested by a plurality of host processors [fig 6, 112] into the plurality of disk drives, using a plurality of logical volumes [col 2, lines 26-28; fig 6, 108] constituted by storage areas of the plurality of disk drives,

wherein, when the control unit receives multiple requests from different host processors [fig 6, 112] for a logical storage area having a different size than a size of one of the logical volumes, the control unit controls to allow a first request of the multiple requests and controls to delay a second request of the multiple requests [col 2, lines 60 to col 3, line 8; fig 4, 402, 404, 405].

6. In re claim 26, DeKoning et al. shows the control unit includes a plurality of host adaptors [fig 6, 602] which control data transfer between the control unit and the plurality of disk drives.

7. In re claims 27 and 28, DeKoning et al. shows a plurality of disk adaptors [fig 6, 602] which control the read/write plurality of logical volumes.

8. In re claim 29, DeKoning et al. shows cache memories [fig 6, 104] which enable the transfer of data between the host adaptors and the disk adaptors.

9. In re claim 30, DeKoning et al. shows a control memory [fig 6, 104] which stores

control information into a plurality of tables.

10. In re claim 31, DeKoning et al. shows the control unit permits the multiple requests to be handled in parallel if the data ranges of the multiple requests do not overlap in a same logical storage area [fig 4, 402, 410].

11. In re claim 32, DeKoning et al. shows a system [fig 6] comprising:

a plurality of disk drives [fig 6, 108]; and

control unit [fig 6, 602] for controlling read/write of data requested by a plurality of host processors [fig 6, 112] into the plurality of disk drives, using a plurality of logical volumes [col 2, lines 26-28; fig 6, 108] constituted by storage areas of the plurality of disk drives,

wherein, when the control unit receives multiple requests from different host processors for a logical storage area and having a different size than a size of one of the logical volumes [col 2, line 60 to col 3, line 8] determines that the data ranges of the multiple requests overlap [fig 4, 402, 404], the multiple requests are not handled in parallel [fig 4, 405].

12. In re claim 33, DeKoning et al. shows the control unit includes a plurality of host adaptors [fig 6, 602] which control data transfer between the control unit and the plurality of disk drives.

13. In re claims 34 and 35, DeKoning et al. shows a plurality of disk adaptors [fig 6, 602] which control the read/write of data from/to the plurality of logical volumes.

14. In re claim 36, DeKoning et al. shows cache memories [fig 6, 104] which enable

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the transfer of data between the host adaptors and the disk adaptors.

15. In re claim 37, DeKoning et al. shows a control memory [fig 6, 104] which stores control information into a plurality of tables [col 10, lines 51; fig 5].

16. In re claims 38-39, DeKoning et al. shows the logical storage area is an extent corresponding to a portion of said one of the logical volumes [col 2, lines 26-28; col 2, line 60 to col 3, line 8].

### ***Conclusion***

Any response to this action should be mailed to:

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P.O. Box 1450  
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The centralized fax number is 571-273-8300.

The centralized hand carry paper drop off location is:

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Customer Service Window, Mail Stop \_\_\_\_\_  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application should be directed to the central telephone number (571) 272-2100.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harold Kim whose telephone number is 571-272-4148.

The examiner can normally be reached on Monday-Friday 9AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz Fleming can be reached on 571-272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Harold J. Kim

Patent Examiner

October 30, 2006/HK

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